Attorney Docket No. DEJI 1001-1

Remarks

The above Amendments and these Remarks are in reply to the Office action mailed

August 28, 2003. No fee is due for the addition of any new claims.

Claims 1-18 were pending in the Application prior to the outstanding Office action. In

the Office action, the Examiner rejected all claims 1-18. The present Response amends claims 1-

3, 5, 7-9, 11, 13-15 and 17, leaving for the Examiner's present consideration claims 1-18.

Reconsideration of the rejections is requested.

I.   OBJECTION TO THE ABSTRACT

The Examiner objected to the abstract on the grounds that it included more than 150

words. The abstract has been amended such that it is now shorter than 150 words in length.

II.   ART REJECTIONS

In Paragraph 3 of the Office action, the Examiner rejected claims 5-8 as being

unpatentable over a combination of Hodjat and Ueno. In Paragraph 5 of the Office action, the

Examiner rejected all claims 1-18 as being anticipated by Ueno. Applicant will discuss the latter

rejection first.

A.   Rejections over Ueno Alone

The Examiner rejected claims 1-18 under 35 USC 102 (e) as being anticipated by Ueno.

Attorney Docket No. DEJI 1001-1

1.   Brief Description of Ueno

Ueno teaches a knowledge provider system having multiple knowledge bases each
associated with a different agent in a communication network. Each agent holds a script which
contains its knowledge base, as well as data defining predetermined message formats for certain
types of messages and predetermined content formats for certain types of message contents
which can be handled by the agent. A message received by the agent is pattern-matched against
its message formats, and if it is found to be an information request message, then the message
content portion is pattern-matched against the predetermined content formats. If that matching a
successful, then the subject for which information is requested is pattern-matched against the
contents of the agent's knowledge base to find a set of information corresponding to that subject.
If any of the pattern matching operations is not successful, the agent propagates the content
portion of the information request message to other agents via the network. (Ueno, Abstract).

2.   Independent Claim 1

As originally filed, Applicant's claim 1 called for a network of agents each having a view
of its own "domain of responsibility". In the Office action, the Examiner pointed to an assigned
identifier (i.e. a network ID), as constituting a "domain of responsibility". The Examiner
indicated the network ID may be linked to a unique address within a specific domain of the
network. (Office action, Paragraph 5).

Claim 1 has now been amended to clarify that the domains for which the agents are
responsible are natural language interpretation domains, not network domains. Natural language
expression involves expression of one's intentions as freely and naturally as possible (see

Applicant's specification, at page 38, line 20), and natural language interpretation involves attempting to discern user intent - a more abstract level of meaning - from the user's natural language input. A natural language interpretation domain is a subset of potential meanings that the user might intend by part or all of an input message. For example, one agent might be responsible for detecting numbers or numerical relationships intended by the user input, whereas another agent might be responsible for detecting which of several back-end devices being controlled by the natural language interface is being referred to in the user input. A natural language interpretation domain is a domain of expression in an incoming message.

A network domain, on the other hand, is a highly structured address of some kind, which is completely unrelated to the content of a message. Ueno's agents may be associated with network domains, but not interpretation domains.

For this reason alone, Ueno fails to teach a limitation of Applicant's claim 1 and therefore cannot anticipate.

In addition, claim 1 also calls for an agent to "receive[ing] from an upchain agent a query inquiring whether at least part of said the subject message is within the natural language interpretation domain" of the agent. The Examiner appears to assert that the queries referred to in these claim steps are satisfied by the information request messages in Ueno.   But if the "natural language interpretation domain" called for in the claim is considered to be an agent's *network* domain in Ueno, then Ueno's request messages do not inquire "whether at least part of said the subject message is within the natural language interpretation domain" of an agent in

Ueno. Ueno's inquiries are for knowledge information relevant to the request content, not for whether any part of the *message* is within a *network* domain.

Claim 1 also calls for the agent to respond to the upchain agent whether the message is within the natural language interpretation domain of that agent. But again, if the "natural language interpretation domain" called for in the claim is considered to be an agent's *network* domain in Ueno, as the Examiner asserts, then Ueno's agents do not provide any such response. Ueno's response information sets contain knowledge information relevant to the request content, not an indication of whether any part of the *message* is within a *network* domain.

Still further, Applicant's claim 1 calls for a first agent to query at least one agent downchain of the first agent, and to respond to the upchain agent before the first agent receives all responses "from *said* agents downchain of said first agent." In other words, this claim calls for the first agent to respond to its upchain agent after fewer than all *of the downchain agents it queried* have responded to the first agent.

In Ueno, each agent has one or more "propagation destination" agents. The Examiner has identified language in Ueno teaching that the message can contain a "Count" specifying how many agent responses are desired in a sequential chain of "propagation destination" agents, but this value serves only to limit the number of agents in the chain that get *queried*. It causes all responses to be returned to the originating agent after fewer than all of the agents in a sequential chain have been *queried*. That is very different than specifying that responses are to be returned after fewer than all of the agents that *have* been queried, have *responded*.

The "count" feature of Ueno therefore does not imply that Ueno teaches the limitation in Applicant's claim 1 calling for a first agent to provide a response "before said first agent receives all responses from *said* agents downchain of said first agent."

There are many other differences between Ueno and Applicant's claimed invention, but Applicant believes that the above should be sufficient to establish the absence of an anticipation. Applicant reserves the right to point out some of the other differences should it become necessary or desirable at a later date.

In light of the above, it is respectfully submitted that Claim 1 should be patentable over Ueno.

3.   Independent Claim 5

As with claim 1, as originally filed, Applicant's claim 5 called for a network of agents each having a view of its own "domain of responsibility". In the Office action, as with claim 1, the Examiner pointed to an assigned identifier (i.e. a network ID) which the Examiner indicated may be linked to a unique address within a specific domain of the network.

As with claim 1, however, claim 5 has now been amended to clarify that the domains for which the agents are responsible are natural language interpretation domains, not network domains. As set forth above with respect to claim 1, therefore, claim 5 should be patentable over Ueno for this reason alone.

In addition, claim 5 calls for, among other things, the step of an originating agent querying at least one downchain agent a first time, the first query including a first "depth-of-search indication".   The Examiner once again has identified the "Count" feature of Ueno as

constituting such a depth-of-search indication. But as described with respect to claim 1, Ueno's "Count", is "a number whose initial value determines the number of agents from which response information sets are to be obtained." (Ueno col. 21, lines 40-67).

That is not the same thing as a "depth-of-search" indication, which indicates the maximum number of agents that a query should be sent through along a chain *regardless* of which ones provide a response. See Applicant's specification, for example at p. 6, line 16 and p. 11, line 15.   Accordingly, for this reason as well, Ueno cannot anticipate.

As with claim 1, there are many other differences between Ueno and Applicant's claimed invention, but Applicant believes that the above should be sufficient to establish the absence of an anticipation. Applicant reserves the right to point out some of the other differences should it become necessary or desirable at a later date.

4.   Independent Claim 11

As with claims 1 and 5, as originally filed, Applicant's claim 11 called for a network of agents each having a view of its own "domain of responsibility". In the Office action, as with claims 1 and 5, the Examiner pointed to an assigned identifier (i.e. a network ID), which the Examiner indicated may be linked to a unique address within a specific domain of the network.

As with claims 1 and 5, however, claim 11 has now been amended to clarify that the domains for which the agents are responsible are natural language interpretation domains, not network domains. For the same reasons as those set forth above with respect to claim 1 and 5, therefore, claim 11 should be patentable over Ueno.

In addition, claim 11 calls for, among other things, steps of an originating agent querying at least one agent downchain of the originating agent a first time regarding a subject message, and the originating agent "subsequently querying said queried agents a second time" relative to the same subject message. This is a series of steps that might occur, for example, where the originating agent received a response from an agent downchain of the originating agent before the downchain agent received all responses from its own downchain agents. In such a situation, if the originating agent was not satisfied with the first response, then an embodiment might permit the originating agent to re-submit the same query to the same downchain agents again, but perhaps with a larger depth-of-search indication. (See Applicant's specification, at p. 6, line 19).

Ueno does not teach an originating agent querying the same downchain agents a second time that it queried a first time, regarding the same subject message. The Examiner points to Ueno, col. 4 (sic.: col. 3), lines 39-56 as teaching this feature, but that section teaches only that a single agent has to successfully execute more than one pattern matching operation before it will generate a response message. No separate querying operation takes place from any other agent to cause the agent to execute the second or third pattern matching operation.

Ueno therefore fails to teach the step called for in Applicant's claim 11, of the originating agent "subsequently querying said queried agents a second time" regarding the same subject message.

As with claims 1 and 5, there are many other differences between Ueno and Applicant's claimed invention, but Applicant believes that the above should be sufficient to establish the

absence of an anticipation. Applicant reserves the right to point out some of the other differences

should it become necessary or desirable at a later date.

5.   Dependent claims 2-4, 6-10 and 12-18

These claims all depend ultimately from one of the independent claims 1, 5 or 11, and

include all the limitations of the independent claim. These claims are therefore believe to be

patentable for at least the same reasons as their respective independent claims. Applicant also

submits that these claims each add their own limitations which rendered them patentable in their

own right. Applicant reserves the right to point out such features should become necessary or

desirable at a later date.

B.   Rejections over Ueno and Hodjat in Combination

The Examiner rejected claims 5-8 as being unpatentable over a combination of Hodjat

(by double patenting) and Ueno.

1.   Independent Claim 5

As described above with respect to the rejection of claim 5 over Ueno alone, claim 5 calls

for, among other things, a step of an originating agent querying at least one downchain agent a

first time, the first query including a first "depth-of-search indication".   The Examiner

indicates that Hodjat fails to teach this limitation, and cites Ueno to remedy the deficiency. As

with the rejection of claim five over Ueno alone, the Examiner cites col. 21, lines 40-67 of Ueno

as teaching that a message can include a "Count", which is "a number whose initial value

determines the number of agents from which response information sets are to be obtained."

But again, that is not the same thing as a "depth-of-search" indication, which indicates the maximum number of agents that a query should be sent through along a chain *regardless* of which ones provide a response.

Thus even if Ueno could be combined with Hodjat, the combination still would not teach a first query including a first "depth-of-search indication".

Nor would be obvious to modify the combination to teach a depth-of-search indication. As pointed out in Applicants' specification, at p. 16, lines 1-11, in certain applications, such as certain interactive applications, it may be important to limit the time elapsed since the network first received input from the user. Agents in the network should preferably be able to act upon the responses received so far, even if they are incomplete. In agent networks that are very large, or that are distributed across relatively slow communication channels, the time to obtain responses typically depends more on the number of agents that a query is sent through (depth-of-search), than the number of such agents from which a response is desired. A limitation on the number of agents from which a response is desired might still require the message to be sent through a much larger number of agents.

Ueno's "Count" limits only the number of such agents from which a response is desired, not the number of agents that a query should be sent through. Ueno's "Count" therefore does not achieve Applicant's goal of limiting the time elapsed, as well as the "depth-of-search" indication does as called for in Applicant's claim. Nor does Ueno contain any suggestion that it be modified to use a depth-of-search indication instead of a Count of the number of agents from which a response is desired.

Accordingly, claim 5 should be patentable over Ueno.

      2.   Dependent claims 6-10

These claims all depend ultimately from independent claim 5, and include all the limitations of independent claim 5. These claims therefore should be patentable for at least the same reasons. Applicant also submits that these claims each add limitations which render them patentable in their own right. Applicant reserves the right to point out such features should become necessary or desirable at a later date.

III.   CONCLUSION

The amendments to the dependent claims are made to conform to those in the independent claims.

The references cited by the Examiner but not relied upon have been reviewed, but are not believed to render the claims unpatentable, either singly or in combination.

In light of the above, it is respectfully submitted that all of the claims now pending in the subject patent application should be allowable, and a Notice of Allowance is requested. The Examiner is respectfully requested to telephone the undersigned if he can assist in any way in expediting issuance of a patent.

Attorney Docket No. DEJ1 1001-1

The Commissioner is authorized to charge any underpayment or credit any overpayment

to Deposit Account No. 50-0869 for any matter in connection with this response, including any

fee for extension of time, which may be required.

Respectfully submitted,

Date: 10/3/2003   By: _____

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